

Application No.: 10/606,348

Docket No.: 2336-183

**REMARKS**

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claims 2-8 and 11-21 are pending in the application. Claims 1, 9 and 10 have been cancelled without prejudice or disclaimer. Claims 2 and 3 have been rewritten in independent form. Original claims 2-8 have also been revised to improve claim language. New claims 11-21 have been added to provide Applicants with the scope of protection to which they are believed entitled. The new claims find solid support in the original application, especially FIGs. 3 and 5. The Abstract has been amended to be compliant with commonly accepted US patent practice. No new matter has been introduced through the foregoing amendments.

The Examiner's decision to withdraw the Restriction Requirement is noted.

The 35 U.S.C. 102 rejections of claims 9-10 as being anticipated by *Riza* (U.S. Patent No. 5,208,880) and *Novotny* (U.S. Patent No. 6,751,395) are moot as claims 9-10 have been cancelled.

The 35 U.S.C. 103(a) rejections of claims 1-8 as being obvious over *Riza* and *Novotny* in view of *Aksyuk* (U.S. Patent No. 6,173,105) and *Kitamura* (U.S. Patent No. 4,828,345) are traversed, because the references singly or in combination fail to disclose, teach or suggest all limitations of the rejected claims, especially the limitation of original claim 1 that the surface layer has a reflectivity less than 80%.

The Examiner relies on *Aksyuk*, at column 1, line 63 through column 2, line 18, for the highlighted limitation. Applicants have carefully reviewed the cited passage as well as the entire reference of *Aksyuk*, and still failed to locate any teaching of the specifically claimed reflectivity of less than 80%. *Aksyuk* simply discloses at column 2, line 15 that the coating on the shutter is either

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highly opaque or highly reflective. The reference is completely silent on how high the reflectivity of the coating should be. Therefore, Applicants respectfully submit that *Aksyuk* does not include an enabling disclosure of the claimed "less than 80% reflectivity", and the Examiner's combination of *Riza* with *Aksyuk* would lack the claim limitation. The 35 U.S.C. 103(a) rejection relying on *Riza* and *Aksyuk* is therefore inappropriate and should be withdrawn.

The Examiner additionally relies on *Novotny*, at column 5, lines 18-34 and column 6, lines 14-18, and argues that it would have been obvious to modify the *Novotny* device to include the claimed reflectivity "as desired for the purpose of higher coupling efficiency of the optical attenuator." Applicants respectfully traverse this rejection, because the Examiner's suggestion or motivation to modify *Novotny* is neither found in the *Novotny* reference itself nor in the knowledge generally available in the art.

Applicants have carefully reviewed the applied reference, especially the cited passages, and still failed to locate any teaching that might supply the Examiner's suggestion or motivation to modify the reference. In particular, although *Novotny* discloses a coated blade at column 5, lines 18-34, the reference, like *Aksyuk*, simply teaches that the coating should be highly reflective (column 5, line 22). The disclosure in column 6, lines 14-18 is for a uncoated blade (column 6, line 14), and is therefore unrelated to the claimed surface layer. The reference further states that the coating should have a sufficiently high reflectivity so as to completely reflect the intercepted portion of the incident beam. See column 6, lines 38-42 of *Novotny*. Thus, the disclosure of *Novotny* as a whole specifically requires that, if the coating is to be reflective, its reflectivity be as high as possible. A person of ordinary skill in the art would not have been motivated by this overall teaching of *Novotny* to limit the reflectivity of the coating to less than 80% in order to obtain a higher coupling efficiency as the Examiner argues. The reference, in fact, effectively teaches away from the claimed limitation.

If the Examiner maintains that the stated suggestion or motivation to modify *Novotny* was

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found in the knowledge generally available in the art, she is kindly asked to cite a reference or references of good date showing that it was known in the art to limit the reflectivity of the coating in order to obtain a higher coupling efficiency.

Accordingly, Applicants respectfully submit that the 35 U.S.C. 103(a) rejection relying on *Novotny* as formulated by the Examiner is inappropriate and should be withdrawn.

Notwithstanding the above and solely for the purpose of expediting prosecution, Applicants have cancelled independent claim 1 and rewritten claims 2 and 3 in independent form.

Independent claims 2 and 3 are clearly patentable over the art for the reasons advanced with respect to claim 1.

Claim 2 is also patentable, because the applied references do not fairly teach or suggest the limitations that the surface layer has a light extinction ratio and a thickness for extinguishing the transmitted portion of said incident light in said surface layer, and the surface layer is formed of a material selected from the group consisting Ti, TiO<sub>2</sub>, Cr, CrO<sub>2</sub>, W, Te and Be. The advantage of the claimed limitations have been discussed in the specification, i.e., although the reflectivity of the surface layer is not as high as the conventional coating (less than 80% v. 90%), its light extinction ratio and thickness allows to suppress generation of scattered light, thereby reducing wireless dependent loss (WDL) and polarization dependent loss (PDL).

*Aksyuk* only teaches at column 1, line 63 - column 2, line 18 that the surface layer scatters the light signal "so that little of it either enters into the second fiber or is reflected back into the first fiber. That is, *Aksyuk* fails to realize that even a small portion of the scattered light signal, inevitably entering into the transmitting fiber, will significantly increase WDL and PDL, because the amount of the scattered light may substantially vary depending on the wavelength and polarization. Thus, *Aksyuk* does not teach or suggest that the scattered light can be suppressed by a surface layer having a reflectivity of less than 80%, a light extinction ratio and a thickness for

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extinguishing the transmitted portion of incident light in the surface layer, and being formed of a material selected from the group consisting Ti, TiO<sub>2</sub>, Cr, CrO<sub>2</sub>, W, Te and Be, as presently claimed.

In addition, the Examiner's argument that it would have been obvious to select the claimed materials based on their suitability for the intended use is inaccurate and therefore traversed. It should be noted that the "intended use" of the *Aksyuk* coating is to provide a highly reflective layer. See *Aksyuk* at column 2, line 15. Without specific guidance by *Aksyuk* as to how high the reflectivity should be, a person of ordinary skill in the art would have tended to select materials that provide as high reflectivities as possible, and would have chosen the conventionally known highly reflective materials, such as Au (90%), rather than the claimed materials with less than 80% reflectivities. Thus, it would not have been obvious to further modify the combination of *Riza* and *Aksyuk* in the manner the Examiner proposes

Claim 2 is thus patentable over the art. Claims 4-9 and 12-13 depend from claim 2, and are considered patentable at least for the reason advanced with respect to claim 2.

Claim 3 is patentable over the applied references because the references are not combinable in the manner the Examiner proposes. In particular, the teaching reference being relied upon by the Examiner for the limitation of original claim 3, i.e., *Kitamura*, is non-analogous art.

"In order to rely on a reference as a basis for rejection of an applicant's invention [under 35 U.S.C. 103(a)], the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his

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problem."); and *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). See MPEP, section 2141.01(a).

*Kitamura* is not in the field of applicant's endeavor, because it relates to the field of building and automobile windows. See column 1, lines 12-17. The reference is further classified in other classes/subclasses than *Riza* and *Novotny* which the Examiner considers to be closest to the claimed invention. Thus, *Kitamura* is in a different field from that of the inventor's endeavor.

*Kitamura* is not reasonably pertinent to the particular problem with which the inventor was concerned, i.e., reducing the amount of back reflected light and WDL/PDL in an optical attenuator. See page 7, lines 1-5 of the specification. Specifically, *Kitamura* deals with transmissive windows rather than reflective surface layer capable of suppressing generation of scattered light. See the title, column 1 lines 7-10 of *Kitamura*. Therefore, the matter with which *Kitamura* deals, logically would not have commended itself to the inventor's attention in considering his problem. The reference is thus non-analogous art that cannot be applied against the claims of the instant application in an 35 U.S.C. 103(a) rejection.

Finally, the Examiner's suggestion or motivation to combine *Kitamura* with *Riza/Aksyuk* and *Novotny*, i.e., for the purpose of reducing fog on the mirror surface, is inadequate. It should be noted that the attenuators of *Riza* and *Novotny* are micro devices which are generally enclosed in sealed cavities and, therefore, isolated from the surrounding environment. Accordingly, the *Riza* and *Novotny* devices do not suffer from any problem caused by fog and need not be modified with *Kitamura* in the manner the Examiner proposes.

Claim 3 is thus patentable over the art. Claims 14-21 depend from claim 3, and are considered patentable at least for the reason advanced with respect to claim 3.

Each of the Examiner's rejections has been traversed. Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable indication of

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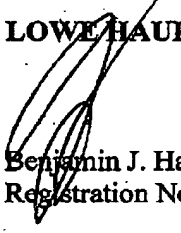
allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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